



The Involvement of Local Skilled Labour in Malaysia's Construction Industry

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1 INTRODUCTION

In the 80s, Malaysia was one of the fastest developing countries with the introduction and development of mega-projects in the region. As reported by (Ibrahim et al., 2010), the construction industry plays an important role in the country's transition and its goal of becoming a developed country. It is expected that the Economic Transformation Program (ETP), the 11th Malaysia Plan (11 MP), and the 12th Malaysia Plan (12 MP), will transform Malaysia into one of the world's high-income nations. According to Olanrewaju et al. (2017), over the next 10 years, the country will need over one million construction workers. Olanrewaju et al. (2017) added that one of the Malaysian construction industry's biggest challenges is the lack of skilled labour. Mustafa Kamal et al. (2012) stated that the construction industry in Malaysia is still struggling with many problems and is associated with low quality, low productivity, unskilled labour, project delays, poor maintenance, non-conducting, and high on-site accident rates. The government aims to be a world-class, creative and knowledgeable solution provider for the Malaysian construction industry. To achieve the aim, the government, together with the CIDB, has made many efforts to upgrade the level of knowledge and skills among the construction players (Construction Industry Development Board Malaysia 2021). In the construction industry, 93% of registered foreign labourers with CIDB are unskilled labourers (Hisyam 2015). This was echoed by Hamzah et al. (2020) and Mohd Fateh et al. (2020), since most foreign labour comes from other countries, such as Indonesia, Bangladesh, and Myanmar, and is mostly unskilled labour. Many of them come from their country and only have basic construction knowledge. This issue has resulted directly in the lack of building expert labour in this country as work from these small nations has exposure to limited knowledge. The recruitment of low-salary foreign labour may ease the expenditure of the contractor, but it will not ensure the quality or even benefit of the Malaysian people.

The rapid development of the construction industry causes the demand for labour to increase, and the lack of local participation cannot meet the demand. Labour is one of the most constrained challenges faced by the Malaysian construction industry as the nation relies too heavily on a large foreign labour workforce (Najib et al., 2019). In the Malaysian construction industry, skilled labourers such as bricklayers, carpenters, painters, electricians, welders, plumbers, plant operators, among others, form a large part of the site labour force whose input determines, to a great extent, the quality of the industry's product. The common problems of low-skilled labour participation in construction have been traced to the unfair salary of labour, poor safety in construction sites, lack of clear-cut career paths, diminishing skilled labour training programs, and delays in the schedule of work on-site (Hussain, Xuetong, and Hussain 2020). Lingard (2013) reported that around 60–90% of the building work was carried out by foreigners and illegal foreign labourers, about half a million of whom came to Malaysia without a working permit or visa. However, Zaki et al. (2012) added that since the construction industry has a bad image for Malaysian

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labour, employers in the industry will have no choice but to bring in foreign labour to meet the demand for labour because these foreign labour will willingly accept the low salary and poor working conditions that construction sites offer.

Local skilled labour shortages in construction have become the Malaysian construction industry's biggest challenge. In addition, the participation of local labour is not highly motivated, and it is known that the needs of industry are not met by skilled labour created through vocational training. Some of them quit the construction industry after being educated by vocational education institutions. Malaysian construction has problems in obtaining the root of labour as well as retaining skills and needs to rely on foreign labour to meet the high demand for skilled labour due to rapid growth in Malaysia and poor local participation (Zaki, Mohamad, and Yusof 2012). The recruitment of foreign labours in Malaysia's construction sector is not a new issue. This issue starts since the British reign, Malaysia has begun taking foreign labours to fill the industry of need. Mustafa Kamal et al. (2012) highlighted that the critical issue in the industry is the dependency on a low salary, low skills, low overhead approach as price and affordability. Most of them cannot also learn and pass new technology into the building process. Whether foreign labours coming to Malaysia are skilled or not, it can also trigger several domestic cases that affect individuals or countries if not encourage the locals to involve in the construction industry then reduce the upcoming of foreign labour. Noh et al. (2016) reported that many of cases crimes are related to foreign and the people who involve in crime cases most of them are illegal immigrants and foreign labours. Foreign labour has caused several problems in Malaysian companies in the construction industry productivity. Firstly, when the organization decide to adopt more productive and modern methods of construction such as IBS. Most of the labours are not well trained and exposed to such a construction approach (Ismail et al., 2018). reported that some foreign labours have been unable to cope with a new working environment in large-scale projects because they do not have any experience handling big size projects. Some issues were also faced by the Malaysian construction organization when some of the foreign labours were absent during working hours and ran away after they reached Malaysia where the work on-site have begun halfway. Foreign labour also has a substantial indirectly economic effect on the nation. The remittances of foreign labours will be returned to their countries of origin, resulting in a currency outflow that causes our Malaysian ringgit to deteriorate.

In contrast, the inflation rate of foreign labours working in Malaysia is higher. This is because avoid paying a tax on salary, they buy goods and enjoy free benefits of charge. Not only that, their employers and other facilities guarantee foreign labour security without any related expenses (Malaysian Employers Federation 2014). Hiring foreign labour will also affect the wage structure of the industry. Employers are satisfied with the low salaries paid to foreign labours with the passage of time and the increase of foreign become highest than local labours decreasing due to employers could hire low skilled labour (Abdul-Rahman et al., 2012). The industry's reliance on foreign labours solely for the event with low value-added that

require just lower level of expertise and low pay as emphasized by Del Carpio and Wagner (2015). Mahmood et al. (2021) conveyed that it has been stated that possible instability has such activities have been increased as violence, foreign worker's culture and illegal strikes. On the other hand, for the local labours, the bad sides of the construction industry make it more difficult to encourage locals to participate in the construction industry (Hamid, 2013; Mohd Najib et al., 2020). According to CIDB (2017) a survey in the Construction Industry Transformation Programme (CITP) shows that local people often see the construction industry as challenging to work in a negative sense, making them reluctant to take up jobs. In addition, jobs in the construction industry sector are on a contract or project basis (Construction Industry Development Board 2017). As the project was finished, their work contract also ended. This setting is one of the reasons locals decline to join the construction industry because the majority seek a permanent job that will be able to provide a secure and stable income. Labourers benefit from stability because it allows them to plan their cash flow and loan repayments.

Therefore, from all the issues highlighted, this paper is intended: 1) To investigate the current level of participation of local skilled labours in the Malaysian construction industry; 2) To determine the causes of the poor participation of local skilled labours in the Malaysian construction industry; and 3) To recommend initiatives to encourage the participation of local skilled labours in the construction industry.

2 LITERATURE REVIEW

2.1 The Construction Industry

Cambridge University Press (2019) defines construction as new development, modification, upgrading work, demolition, equipment and plant installation, and any remodeling from the original building design. While the construction industry is defined by the Project Management Institute (2013) as an application source for producing construction processes based on performance or achievement, scope, time, cost, and involvement of the temporary organisation in the project, like a construction firm, consultant firms like suppliers, professional services people, and a financial institution like a bank or government sector. Construction involves manpower, plant, construction materials, and management. The construction industry helps in developing and connecting infrastructure in the civil, structural, mechanical, and electrical aspects.

Malaysia's construction industry is one of the productive sectors that has made a significant contribution to the Malaysian economy as a growth catalyst for other industries. Malaysia's government plays a key role in the construction industry. One of the government's objectives is to allocate the nation's wealth to people to increase their standard of living. This is achieved by raising people's earnings and also creating employment opportunities. In addition, it is shown that the government can directly regulate the industry's demand. According to the CIDB, the labourers distinguish themselves as skilled labourers in the construction industry after obtaining

some sort of accreditation from the relevant recognised bodies. This may include undergoing proper training or studying within the stipulated duration. In the context of obtaining recognition by the CIDB, the labourers will have to pass a test or courses that will be organised by some authorised bodies, such as Akademi Binaan Malaysia (ABM). The low participation of local skilled labour, in particular, is an issue that snowballs into a severe problem and may cause other problems, directly or indirectly, in the construction industry. The Malaysian construction industry is too dependent on foreign labour. Local skilled labourers are not attracted to working in the construction industry, especially if they are working on a construction site, because it is classified as undignified work and they demand higher pay. On the other hand, foreign workers are cheaper and can work long hours without any complaints.

As a result of this scenario, most employers preferred to hire foreign labour over local skilled labour. The International Trade and Industry Minister of Malaysia (MITI) stated that the local skilled labour shortage was a serious problem and needed immediate attention. Some of the construction organisations stated that they are willing to hire local skilled labour, but the labour leaves the organisation after receiving the necessary training. According to reports, some organisations invested a substantial amount of money on labour recruitment and training programmes, but only about 50% of the trainees served the companies, while others left (International Labour Organization 2016). It has also been observed that brain drain is one of the significant causes of the non-availability of local skilled labour in the industry (Jarmolowicz and Knapińska 2011). Most Malaysians prefer to work abroad, primarily in Singapore, Australia, the United States, and the United Kingdom, because these countries offer better opportunities and higher pay for their skills and experience (Jarmolowicz and Knapińska 2011).

2.2 Labour in the Construction Industry

Labour in the construction industry can be divided into two categories: unskilled and skilled labour. Work that requires no specific education or experience is often categorised as unskilled labour. The Department of Skill Development defines “skilled labour” as a worker who obtains level three certificates based on the Malaysia Skill Certificate (SKM) as a minimum qualification. Therefore, skilled labourers are people that have served an apprenticeship, practise the trade learned activity, and, because of their knowledge and vocational capacity, are given tasks that are particularly difficult and require a lot of experience that involve different trades of specialisation.

Labour is a key element in developing construction management processes. The lack of skilled labour has had a significant negative impact on construction costs, schedules, and construction performance. Skilled labour has received professional training; has at least 2 years of work experience, is knowledgeable about building materials, equipment, and safety, and is physically up-to-date (Abdul Hamid 2013). There are three possible avenues for training skilled labour, namely schools, vocational training centres, workshops, and on-site training directly (Sulaiman and Mohd Salleh 2016). Sulaiman and Mohd Salleh (2016) also added that the most commonly used

skilled labour in the construction industry where their services are required most in construction projects are as follows:

- **Carpenters:** The job scope for carpenters is to construct, erect, install, or repair structures, fittings, or furniture made of wood; building frameworks, including partitions, joists, struts and rafters, wood staircases, window and door frames, and hardwood floors using their skills and tools (UNESCO 2021). The carpenters build the wood framing for houses, roofs, stairs, and decks, and construct formwork to support concrete work such as footings, columns, and stairs. Besides that, the carpenter is responsible for carpentry work such as installing cabinet siding, drywall rails, building cabinets and countertops, and working on drywall, wood flooring, metal jambs, and ceilings. Normally, carpenters are skilled at exterior and interior finish work.
- **Bricklayers:** Build walls, partitions, and other structures made of brick, and they also work with concrete blocks, bricks, tiles, marble, and terra cotta. The bricklayers can also do both construction and maintenance work. According to Wahab and Lawal (2011), many tools used by bricklayers include; trowels, brick hammers, chisels, levels, plumbs, and measuring squares, whereby unskilled workers will assist the bricklayer in doing the heavy work such as carrying materials and mixing mortars.
- **Painters:** According to Ali (2016), painters and decorators are often the last line of construction labour to finish a project before the tenants occupy the structure. The main duty of the painter is to provide not only aesthetic considerations for a bare structure, but also enhance the natural shape of a building and provide additional protection from the weather, wear and tear, and natural ageing process. Based on the findings by Božić-Štulić et al. (2019), painting is usually used on four elements of a building: interior walls, exterior walls, ceiling surfaces, wooden surfaces, and metal surfaces. Therefore, painters are highly skilled workers in the construction industry.
- **Plasterer:** It is one of the oldest and most required construction trades, which is responsible for applying stucco and plaster to building components for insulation, support, aesthetic, and smooth background on walls both internally and externally. To achieve this, the efficient services of skilled masonry work are required for the plastering and rendering finishes.
- **Tiler:** Tilers are responsible for installing hard tile and marble on floors, decks, and walls as specified in any construction project. There is also a roof tiler who can lay roof tiles on the roof frame. According to Lam and Fu (2019), tile fixers must have the training to set their tiles properly. Furthermore, qualified tile fixers must be able to be fast and efficient to ensure less risk of the project running behind schedule. However, tile fixers are susceptible to some injuries whereby constant straining and bending over a surface can lead to repetitive stress and injuries. For this reason, a trained tile fixer is needed to minimise the vulnerability involved in the work.

TABLE 1 | Numbers of foreign labour in Malaysia's construction industry.

Year	Numbers of foreign labour in Malaysia's construction industry
2015	428,469
2016	369,774
2017	339,712
2018 (until February)	315,614
Total	1,453,569

(Source: Surendran, 2021)

2.3 Foreign Labour Forces in Malaysia's Construction Industry

According to current estimates, nearly RM5 billion is sent out of the country each year by foreign workers working in the construction sector, who send money back to their home countries. The Malaysian CIDB stated that there were currently 420,000 foreign workers in the sector who were registered with the Malaysian Immigration Department (The Star 2019). Malaysia, with a population of 32 million people, is heavily dependent on foreign labour. They are concentrated on blue-collar jobs. There are some 1.76 million foreign workers who work legally in Malaysia, and an estimated 3.9 million to 5.5 million more illegal immigrants, as highlighted in **Table 1**. This shows the numbers of registered unskilled foreign labour in the Malaysian construction industry until 2018, excluding illegal and non-registered labour. Even though the numbers are decreasing year to year, the majority of the foreign labour forces in Malaysia are unskilled labour, which is not preferable since the construction industry requires skilled labour.

2.4 The Pattern of Local Skilled Labour Participation in the Construction Industry

Malaysia seeks to overcome its reliance on low-skilled foreign labour as it attempts to move up the economic ladder. Nevertheless, it might impact other industries in the country. In the Malaysian construction industry, thousands of labourers are involved, but most of them are classified as unskilled labour. The country is experiencing a shortage of skilled and productive labour adequately trained for certain jobs. Skilled labour is the most important thing to improve the industry. The essential information of skilled labour in the construction sector must be kept up to date. If the current scenario is exposed, the authorities will find it easier to take concrete steps to improve the performance and efficiency of Malaysian labour (Najib et al., 2019). Furthermore, one of the national agendas is to reduce the number of overseas labourers by more than half in 5 years while getting companies to hire more high-skilled Malaysians to become a more developed economy. **Table 2** presents statistics of registered building personnel by CIDB from 2016 to 2018. The local labour force that registered with CIDB from 2017 to 2018 plunged by -45%, while the foreign labour force rocketed by +48%. This data is alarming as the

TABLE 2 | Statistic of registered personnel by CIDB.

Year	Local labour	Foreign labour
2016	208,087	14,820
2017	198,375	28,178
2018	109,156	41,736
Total	515,618	84,734

(Source: Construction Industry Development Board Malaysia, 2021).

increasing numbers of foreign labourers in this country concerns us because most of them are not skilled labourers who degrade work quality and also become a social issue (Manoharan et al., 2021).

2.5 The Needs of Local Skilled Labour in the Malaysian Construction Industry

Saieed (2016) highlights that after the pandemic, the economy is expected to grow, although the headwinds buffeting the Malaysian economy make it difficult to reach the target's upper band. Growing would mean delivering higher-value goods and services, which will increase productivity. An increase in productivity would mean a better salary for the labour force. This is the policymakers' basic argument as they speak about how human capital will help the economy. However, the reality is different. According to data from the Malaysian Productivity Corp, the average annual labour productivity growth between 2011 and 2015 was 1.8%, while the 11 MP has a target of 3.7% annual growth. Doubling the growth in labour productivity is needed to meet the New Economic Model's high-income target. Department of Statistics Malaysia, (2020) notes that the economy saw a 3.3% increase in labour productivity last year but claims that it will be difficult for labour productivity to grow in the coming years due to the lack of skilled labour.

The economy will struggle to move up the value chain without more skilled labour and will not be able to attract large investments in resources (Saieed, 2016). However, the target of 11 MP is well below the ratio of skilled labour to developing economies, where the ratio is at least half of the total workforce. The government's plans to raise the skill levels of Malaysian labourers have so far only shown mixed results, with a gap between the plans and their actual implementation (International Labour Organization 2018). In the context of the construction industry, it requires a large number of skilled workers to meet the demand for construction projects. Skilled labour may face difficulties in meeting the demand. The industry is in recovery and a lack of expertise could threaten to disrupt what could well be the most positive outlook for construction in a decade.

2.6 Causes of Poor Participation of Local Skilled Labour in Malaysia's Construction Industry

Formal education achievement cannot be used as a criterion or yardstick in the requirements for jobs in the context of skilled

labour. Employers often use the rate and perceived quality of education as a fast-screening mechanism for hiring. Often, formal education does not perfectly align with one's ability to do the job. The great ability to do the work comes from experience. People learn from their own and other people's experiences. That is why training on-site operations is vital. When they are trained in real conditions, they gain real experience. Working with good quality results from good work skills, which cannot be obtained solely through classroom learning.

2.6.1 Poor Working Environment in the Construction Industry

Construction Industry Transformation Programme (CITP) findings by CIDB (2017) reveal that local people still view the construction industry with a negative perception as being difficult to work in, making local labour refuse to take a job in the construction industry. Not only does the negative image stem from the nature of construction, which some attribute to a dirty workplace, dangerous working conditions, and difficulty understanding the method and process. It is the main reason for hiring foreign labour. Building labour around the world has always been poor in terms of employment (International Labour Organization 2016). In addition, accidents on the construction site are common until the labourers believe they are inevitable. Malaysian labourers work without fully equipped types of machinery on the job site and their working conditions are more dangerous than in other developed countries. Local labour claims that there are numerous unreported incidents that worry them about the lack of procedure in safety management.

According to Ofori (2003), reducing construction accidents and fatalities will improve the industry's image and better suit the information society by attracting more Malaysian labour. Furthermore, local labourers have lost interest in construction work as a result of the filthy, difficult, and dengue issues that have long been associated with the industry, leading local people to refuse to be accepted by the industry, and some employers choose to hire foreign labour rather than improve working conditions to attract local people (Abdul-Rahman et al., 2012). The working environment was unable to attract local labour to meet the labour force's rapid demand (Del Carpio et al., 2015).

2.6.2 Low Assuredness of Salary

Local labour prefers to find the opportunity to work in a different country to earn better salaries than Malaysia (Abdul-Rahman et al., 2012). In addition, the Malaysian Trade Union Congress (MTUC) has failed to convince the government to stop the influx of foreign labour into the country, which depresses the wage structure and reduces opportunities to hire local labour (Najib et al., 2019). This was echoed by Trevena (2013), stating that foreign labourers are willing to accept relatively lower salaries compared to local labourers, thus undermining the wage structures. Local labour typically earns 40% more than foreign labour, which includes pension funds, medical and social benefits. Therefore, hiring foreign labour is a cheap option to keep the production costs low and reduce the bargaining power of the local labour force in the market (International Labour Office 2018).

Due to the low salary, the foreign labour has a big opportunity to work in the Malaysian construction industry since the locals prefer to work in their neighbours' countries.

There is a small incentive offered to contractors for more productive, better quality, and safer technologies to be adopted and implemented. The condition also affects the willingness of contractors to hire highly skilled labour (Construction Industry Development Board Malaysia 2021). In particular, the construction industry offers many job opportunities to people who are not selective in their profession and who desperately need a job. Unfortunately, only foreign labourers have joined the bandwagon. However, it leads to poor workmanship, waste of materials, improper use of equipment, and permanent employment that is not enjoyed by labour. Labourers also did not have the benefits normally related to employment and welfare benefits. This arrangement does not attract local youth to participate because it implies that working in the construction sector is not valuable.

2.6.3 Higher Education Level Among Malaysians

Malaysia's education sector appears to be growing steadily. However, this progress means labour forces can only be occupied by low-skilled foreign employees. To destabilise an economy, the country needs to demonstrate strong resilience to face the crisis of globalisation where the economy was generated by the development of manpower in a few sectors in Malaysia. So, while manpower will generate the economy, Malaysia must ensure their employability, or the entire field may suffer as a result of the loss of various jobs in Malaysia. Malaysian educational standards have been continuously improving over the years, assisting the current generation to achieve higher levels of learning.

Malaysian will prefer to look for more lucrative jobs where they are educated; graduates will only focus on jobs that match their qualifications, causing them to become choosy and exacting in their job selection. Dom et al. (2012) emphasised this point, stating that the local youth are pursuing higher education in exchange for a more lucrative profession, and as a result, they are living differently and better than their parents. The industry has been reduced to low-value-added activities requiring only lower skill levels and offering low pay due to the reliance on foreign labour (Del Carpio and Wagner 2015). Working on a construction site always appears to be a low-status job, lacking prestige, class, and respectability. This was agreed upon by Mohamed (2015), stating that the stigma affects those who avoid the construction industry. This is why some of the local graduates prefer to remain unemployed rather than work in the construction industry and indirectly contribute to society (International Labour Organization 2016).

As for foreign labour, they are driven to improve the quality and value of their lifecycle, thus willing to work in any condition. They are motivated to provide a better future for their children (International Labour Organization 2016). Furthermore, the demand for foreign labour is lower in terms of supply and demand in the job market. It demonstrates that they are willing to work in a tough environment and for long hours, even if the salary is slightly lower. Mohamed (2015) reported that

the local labour force is more choosy and aware of their rights when they inquire about and challenge their employers. It is evident when they dare to inquire about any unfair management practises directed toward them. It is the opposite with foreign labour, where they only obey the rules, when instructions are given, and they are more obedient where they accept the jobs without any serious complaint as long as they get the jobs and get paid. The employer prefers to hire foreign labourers who are resilient enough to agree to work in any tough environment, even if the pay is minimum.

2.6.4 Monopoly by Foreign Labour

Malaysia's dependence on foreign labour is very high, especially in the service, construction, agriculture, and manufacturing sectors. The arrangements benefit both parties, namely Malaysia and foreign workers from countries such as Indonesia, Nepal, Myanmar, Bangladesh, and others. Trevena (2013) reported that unskilled foreign labour fills the vacancies in the construction and other economic sectors as these jobs are physically demanding and labour-intensive. Due to this scenario, it may appear that foreign labour has monopolised the labour force, and leaving local labour as minorities. Since the number of graduates in Malaysia is rising, some fresh graduates may need to work in any sector at entry level before making the transition to their desired position or sectors. The monopolised state is making locals feel they need to compete with them as well. The tremendous monopolising of foreign labour into the country is also causing an outflow of money. As much as 80% of a foreign worker's pay is sent back to their respective home countries regularly, which usually means currency exchange for Malaysian Ringgit (MYR) is higher compared to their home countries (Fateh et al., 2020).

2.7 Initiatives to Improve Local Skilled Labour Participation in the Construction Industry

The lack of experienced and skilled construction labour has become a worldwide problem. Local participation in the workforce is not very encouraging, and it is recognised that skilled labour created through vocational training does not meet industry needs. It has also become a major challenge facing the Malaysian construction industry. Some of them left the construction sector after graduating from construction-related courses. There are problems with Malaysian construction in the ability to obtain the origin of work and maintain skills, and it has to rely on foreign labour to meet the high demand for skilled labour due to rapid growth in Malaysia and low participation by Malaysians (Zaki, Mohamad, and Yusof 2012).

Therefore, the government has identified the need to intensify the construction industry. Mechanization, new building methods and technology, and prefabrication have the effect of reducing reliance on labour and improving contractors' performance and productivity. The government has tightened the work permit requirements to limit foreign labour inflows and increased the levy on foreign labour based on their field of employment. The

government also decided not to extend work permits to non-qualified foreign labourers who have been in the country for more than 5 years and has granted amnesty to illegal foreign labourers to return to their own countries without legal action. The CIDB has announced several initiatives to improve the image of the industry and raise awareness among local labour of the benefits of joining the industry, including improving incentive programs, technical and vocational education and training, raising wages to attract local labour, improving site conditions and safety practices, and raising awareness of the opportunity to get local participation and governance structure and implementing policies. Nevertheless, the changes might not happen overnight. The effects are very slow to take effect from the reforms initiated by the CIDB.

2.7.1 Improving Working Conditions and Safety Practice

The poor impression of working conditions and safety practises on the construction site is one of the reasons that most local labourers are turning away from work in the construction industry. French & Jones (2019) reported that most labourers nowadays have high-risk awareness. In this day and age, these issues need to be addressed. The introduction of standard safety equipment such as safety helmets and protective clothing to prevent accidents and injuries on site is one of the few ways to improve working conditions (Hammer et al., 2016). If the construction industry has a respectable reputation, more local people will be intrigued by taking up construction jobs, thus decreasing the dependence on foreign labour. Kalagatur et al. (2018) added that there are several ways of ensuring a decent working environment by reducing adverse environmental effects such as dust, noise, debris, and unhealthy emissions. This method is being implemented gradually in order to create a positive perception, even though it may be difficult for the construction player to implement it overnight.

Employers play a critical role in improving workplace safety practises, which will boost the local labour force's confidence in joining the construction industry (Manap, Noh, and Syahrom 2017). Although most construction-related activities are high-risk, employers are also responsible for ensuring that their employees are not exposed to risks that could jeopardise their safety and health. The contractor must have adequate safety and health policies in place to reduce workplace risk (Deros et al., 2014). The government is concerned about this. The CIDB has made it mandatory for all construction workers to complete the 'green card' course. The course will cover the fundamentals of security measures, safety and health issues, and risk management while on the job. This will provide some exposure for the labourers who will be working on the construction site.

2.7.2 Awareness of Opportunities

One way to instil the interest of the younger generations in taking part in the construction industry is to cultivate their interest while they are still acquiring university education. French & Jones (2019) suggested that apart from learning the importance of the theories and calculations in construction, the syllabus can also expose them to the new state-of-the-art technology and

innovation that is happening in the construction industry. The university can also invite industry players to give a positive “pep talk” to the students on the perception of working in the construction industry. In addition to that, throwing in some success stories will also increase the students’ interest in the construction industry. The platform can be used by construction industry participants to dispel any negative and misleading image of the construction industry. According to Couth et al. (2019), any university career fair can be a good platform to raise awareness for joining the construction industry. Career advisors should illustrate the potential for career enrichment and advancement in the construction industry, as agreed by Abdul-Rahman et al. (2012) and Jaafar et al. (2015).

2.7.3 Encourage Labour-Intensive Construction With an Industrial Building System

The CIDB described IBS as a construction approach using a mixture of construction components that are either manufactured on or off-site. The finished components were then mobilised and installed on-site like a “lego” system. In addition, Mohd Fateh et al. (2021) stated that advanced countries such as Australia, the UK, and Singapore have implemented the IBS construction approach, which is able to reduce unskilled labour and increase productivity. In the Malaysian context, IBS adoption might be able to reduce the large-scale number of foreign labourers on-site and attract local labourers to a more conducive and controlled environment (manufacturing yard or factory) (Mydin et al., 2014). Lui and Wen. (2020) and Fateh et al. (2019) detailed that the government should encourage labour-intensive sectors to utilise modern technology, especially IBS. This move will help the government achieve its goal of producing 35% of skilled labour by 2020, in line with its efforts to strengthen the country’s TVET.

2.7.4 Governance Structures and Recruitment Policies

Osborne & Hammoud (2017) and Abdul-Rahman et al. (2012) emphasise that improving the governance structures and policies could reduce the influx of foreign labour in the country. Del Carpio et al. (2015) highlighted that more impactful policies need to be introduced to reduce over-dependency on foreign labour without harming the economic sectors in Malaysia. Existing instruments such as quotas, dependence thresholds and levies can be changed to drive the market more while promoting performance in line with Malaysia’s economic goals. It should also be remembered that any proposed reforms need to be complemented by active oversight and implementation on the ground.

3 RESEARCH METHODOLOGY

Literature reviews and questionnaire surveys were used for the data collection. The questionnaires were distributed online. This is suitable for the new normal where close contact and discussion are reduced. The questionnaire comprises four sections. The first section focuses on the respondent’s demographics, which

TABLE 3 | Respondent’s position in the company.

Respondent’s position in the company	Frequency	Percentage (%)
Managing Director	6	5.66
Project Manager	64	60.38
Site Manager	30	28.30
Human Resource Manager	6	5.66
Total	106	100.00

includes years of experience in the industry. Next, the second section dives into the current scenario of local skilled labour participation in Malaysia. In the third section, emphasis is placed on determining the causes of poor participation of local skilled labour in the Malaysian construction industry. Lastly, the last section recorded the recommendation to encourage higher participation of local skilled labour in the construction industry. A 5-point Likert scale was used for sections two, three, and four with a scale of 1-totally disagree to 5-totally agree.

Mohd Fateh et al. (2016) recommended running a pilot test on the questionnaire to check on typos, structures, and the clarity of the question itself. Therefore, the researcher has run a pilot test on five (5) respondents consisting of two (2) senior lecturers, one (1) quantity surveyor, and three (3) contractors. With all the comments and feedback from the pilot test, the questionnaire was amended accordingly. Simple random sampling was used based on the record on CIDB’s website. The questionnaire was distributed to 200 contractors (grade 7) in the Klang Valley. The contractor was chosen because they were dealing directly with the labour on and off-site. Thus, their opinions and feedback are valuable and highly related to the research context. A total of 106 respondents were received, which translates to a 53% response rate.

According to Takim & Adnan (2008) and Mohd Fateh et al. (2020) for a built environment research and self-administrated questionnaire, the acceptable response rate was 20–35%. Thus, based on the response rate, the data collection is reliable and acceptable. An internal reliability test was done using the Cronbach’s alpha analysis. The result will be discussed in the next section. All the data collected was analysed using the Statistical Package for the Social Sciences (SPSS). Variable statistical analysis was used, such as mean, frequencies, and percentage analysis.

4 FINDINGS AND DISCUSSION

4.1 Internal Reliability Test (Cronbach’s Analysis)

A reliability test was performed to assess the questionnaire survey’s internal consistency. The Cronbach’s alpha formula was used to compute the interval consistency level for twenty (20) items, and the result was 0.795, indicating that the items were interrelated and compatible with the study sample; hence, the interval consistency level is adequate (Pallant 2016). The closer the result to 1, the better the internal consistency it is. (Sekaran and Bougie 2016).

TABLE 4 | Respondents' work experience.

Year	Frequency	Percentage (%)
1 year to 5 years	10	9.43
6–10 years	25	23.58
11–20 years	33	31.14
21 years and above	38	35.85
Total	106	100.00

TABLE 5 | Respondents' academic qualifications.

Respondents' academic qualifications	Frequency	Percentage (%)
Diploma	8	7.55
Bachelor's Degree	62	58.49
Master's Degree	36	33.96
Total	106	100.00

4.2 Demographic

According to **Table 3**, the majority of respondents worked as project managers, with 64 respondents (60.38%). The second highest was the site manager, with 30 respondents (28.30%), followed by the managing director and the human resource manager, with 6 respondents (5.66%) each. All positions were directly engaged with labour on-site. Nevertheless, the human resources manager and the managing director were included as well because they were directly involved in the recruitment process, and their input will be useful and relevant to the research.

According to **Table 4**, respondents with 1–5 years of experience have the lowest response rate, with only 10 respondents (9.43%), followed by 5–10 years of experience, with 25 respondents (23.58%). Respondents with 10–20 years are in third place with 33 respondents (31.14%). The highest were the respondents with 20 or more years of experience, with 38 respondents (35.85%).

Table 5 shows that the majority of the respondents were bachelor's degree holders, with 62 respondents (58.49%). Next, 36 respondents (33.96) were Master's degree holders, and lastly, 8 respondents (7.55%) were diploma holders. The demographic shows that the respondents have vast experience in the industry and sit in prominent positions in the organisation, thus their input is reliable and resourceful.

4.3 The Current Scenario of Local Skilled Labour Participation in Malaysia

Table 6 illustrates the findings from respondents about the current scenario local skilled labour participation in the construction industry. The table exhibited the ranking and mean value of current issues related to the low participation of local skilled labour in the Malaysian construction industry. The first rank of the main current scenario participation of local skilled labours in Malaysian construction is that many local skilled labours join training education such as "Sijil Kecekapan Kemahiran (SKK)" but are not participating in the construction industry with a mean value of 3.88. Most of the respondents highlighted that after the locals completed the SKK provided by the government, many preferred to work in other sectors rather than stick to the construction industry. Construction-related training is administered by the CIDB, which is part of ABM (The Star 2009). Approximately 40,000 trainees were trained under the CIDB Youth Skills Training Program between 1999 and June 2007, and CIDB also trained 40,000 construction employees at the same time. Surprisingly, the vast majority of these trainees (80%) do not work in the construction industry. The main reason behind this is that the trainees were not exposed to building sites and were not equipped with the appropriate mentality for working in the real world.

The second highest is that local skilled labour prefers building work such as architectural, mechanical, and electrical work over structural work. This statement shows that most respondents agreed that local labourers do not prefer to work under harsh weather conditions because of the structural work exposed under hot conditions, instead of mechanical and electrical work that is not exposed directly. It can be seen that the average recorded a mean value of 3.86. Next, most respondents agreed that the local labour prefers to be a site leader, such as a site supervisor, rather than become normal labour with a mean value of 3.73. From their perspective, normal labour is required to handle heavy task work and expose themselves to harsh weather conditions, whereas a site supervisor is more focused on the monitoring of work and leading the labour on the arrangement of work that needs to be done.

Finally, respondents moderately agree that even with a higher salary, local labour participation may still be low, with a mean value of 3.64. The construction industry portrays an image of a 3D (dirty, dangerous, and demeaning) working environment. Some locals are not comfortable being in these settings. Some

TABLE 6 | The current scenario of the participation of local skilled labour in Malaysia.

Current scenario of the participation of local skilled labour in Malaysia	Mean value	Rank
Many local skilled labours join the training education such as 'Sijil Kecekapan Kemahiran (SKK)' but are not participating in the construction industry	3.88	1
Local skilled labours prefer to choose work in building such as architectural works and M&E works compare to structural work	3.86	2
Local skilled labours prefer to work as a leader such as site supervisors rather than being just labour	3.73	3
Even with a high salary, the participation of local skilled labours is still low	3.64	4

TABLE 7 | Causes of low local skilled labour participation in Malaysia's construction industry.

Causes of low local skilled labour participation in Malaysia's construction industry		Mean	Overall mean
Monopolize by foreign labours	Malaysia's dependence on foreign labours is very high	4.16	3.90
	Foreign labours are monopolizing sectors of employment in the country	3.90	
	An increase in the number of local skilled labours in Malaysia is causing many of them to be unemployed as there are insufficient jobs around	3.66	
Low Assuredness of Salary	Employers prefer to hire foreign labours because of lower salaries	3.94	3.87
	Local skilled labours prefer to find a job overseas to earn a better salary	3.81	
Academic qualification level	Local skilled labours would find work that matches their qualification/certification instead of just accepting any work from contractors	3.86	3.82
	With higher education levels, local skilled labours prefer more lucrative positions	3.81	
	Local skilled labours are more demanding and have more choice regarding the type of work they want to do	3.79	
Poor Working Environment	Local skilled labours believe that poor image from the nature of construction industry which is the dirty workplace, dangerous condition and difficult to understand the method of work	3.54	3.44
	Accidents on construction sites are common and these lead to local skilled labours thinking that accidents could also happen to them	3.47	
	Local skilled labours claim that there are many other unreported incidents and these make them worry about the lack of procedure in managing their safety	3.32	

respondents even highlighted that even if the salary is slightly lower but there is an opportunity to work in an air-conditioned office, they are willing to go. Nevertheless, our local labourers who are willing to work on-site prefer to go to our neighbouring country, Singapore. Higher salary prospects become more attractive than in Malaysia, and the salaries are paid in Singapore Dollars, where the conversion rate significantly multiplies the amount.

4.4 Causes of Low Local Skilled Labour Participation in Malaysia's Construction Industry

This section discussed the causes of the poor participation of local labour in the construction industry. **Table 7** summarises the findings and is arranged based on the overall mean value. The findings can be categorised into four (4) themes, namely (based on rank) migration development, the low assurance of salary, higher education level, and poor working environment.

Foreign labour monopoly ranks first among the causes for poor participation of local labourers, with a 3.90 overall mean value. The construction is driven by foreign labour. It demonstrates that Malaysia heavily relies on foreign labour. The migrants are monopolising the labour employment, which makes the locals look like minorities if they work as labour as well. This scenario could play out in other sectors in the country, such as service and manufacturing. The economic landscape and political governance may play a significant role in attracting foreign labour to come and work here in Malaysia. The MTUC failed to convince the government to stop the influx of foreign labour, which has the potential to depress the wage structures (New Straits Times 2020). This was echoed by Mohd Fateh et al. (2020), who pointed out that in Malaysia, it is a common perception that hiring foreign workers is less expensive than hiring local labour.

Next, is the low assurance of salary, with an overall mean value of 3.87. Most employers prefer to hire foreign labour because of

their lower salaries and willingness to work long hours compared to local labour. Foreign labourers are willing to accept a low salary as long as they have a secure job (Abdul-Aziz, 2001; Narayanan & Lai, 2014). In the long run, it will have a bad impact on the construction industry because the overall average salary rate will deteriorate, and the rate of increment is very slow. Indirectly, it will affect the attractiveness of the local labour market (Del Carpio et al., 2015).

The third reason for the low participation of local labour in the Malaysian construction industry is the academic qualification level, with an overall mean value of 3.82. Most local labourers would find a position that matches their academic qualification level only, instead of accepting any position that is being offered. For example, diploma holders would like to be in a position that suits their qualifications and will not accept anything less. For a fresh graduate, it is better to gain experience first-hand rather than be too picky about the position offered. Vast experience is a quality that the construction industry values. Even if the labourer lacks formal qualifications, he has vast experience under his belt, which will carry significant weightage in his resume.

In 2021, the Construction Research Institute of Malaysia (CREAM) (2011) reported that the perception that working on a construction site is portrayed as a low-status job with a lack of prestige, class, and respectability. This perception is misleading and affects participation indirectly. The International Labour Office (2018) suggested that rather than being unemployed, which might lead to other problems, going to work in the construction industry is a decent choice to make. There are plenty of things that the applicants can learn, and they can be stepping stones for them to explore in the future. While it is the total opposite for foreign labour, Mohamed (2015) highlighted that they will grab any available jobs even if it means long hours and a harsh environment. The foreign labourers are more obedient as long as they get their payment as promised.

The poor participants of the local labours in the construction sector ranked the poor working environment on the construction site the lowest, with an overall mean value of 3.44. Mohd Fateh

TABLE 8 | Initiatives to encourage the participation of local labour in the construction industry.

Initiatives to encourage the participation of local labour in the construction industry		Mean	Overall mean
Provide Economic Welfare to the Labour	Provide comfortable housing or accommodation to local skilled labours	4.37	4.21
	Contractors should provide some activities as incentives whenever labours have completed some important milestones in the projects	4.05	
Encourage Labours Intensive with Industrial Building System (IBS)	Introduce to local skilled labours the IBS technology, thus improving participation	4.13	4.09
	With the IBS hiring, local skilled labours will increase as compared to hiring low-skilled foreign labours	4.09	
	IBS system can attract the local skilled labours to join the construction industry because the IBS method is simpler to construct	4.07	
Raising Salary to Attract the Local Labour	Give added benefits or rewards to local skilled labours who perform their jobs well	4.11	3.92
	Differentiate salary of local and foreign skilled labours	3.73	

et al. (2020) highlighted that the construction industry has been battered by chronic issues such as poor health and safety conditions, poor working conditions, and lack of quality, resulting in poor productivity and overall efficiency. Local labour believes that working on construction sites is a 3D (dirty, dangerous, and demeaning) environment that may lead to site injuries and accidents. Working on construction sites may portray less prestigious because it is claimed that it does not require a great deal of skill or intelligence (Rahim et al., 2018). However, the claim is deceptive. As you progress through the stages, the complexity of the work will increase as well. It requires creativity, critical thinking, and good communication skills to solve any issues that may arise.

Safety precautions on the construction site are a serious concern. Most organisations now have a competent safety officer who monitors and recommends the safety policy and procedure to ensure that the site is a safe place to work.

4.5 Initiatives to Increase Local Skilled Labour Participation in Construction

This section elaborates on the recommendation on the initiatives that relevant stakeholders can look into on how to encourage the local labour force to participate more in the construction industry. According to the findings, there are six (6) themes (based on the rank): provide economic welfare to labour, encouraging labours intensive with IBS, raising wages to attract local labour, improving working conditions and safety practices, and raising awareness of opportunities. **Table 8** summarises the overall mean and ranks the initiatives on how to encourage the local labour force to participate more in the construction industry.

The first initiative, with an overall mean value of 4.21, agreed upon by the respondents on how to encourage the local labour force to participate more in the construction industry is to provide economic welfare to the labour force, which includes providing comfortable accommodation and providing some activities as incentives whenever labour has completed some important milestones in the projects. The comfortable accommodation can attract local labour to join the construction industry. Usually, only temporary accommodation was given to the labourers, which led to

overcrowding, inadequate sanitation, unregulated drainage of surface water, and improper disposal of waste.

Malaysians are reluctant to remain in that condition and feel that jobs in the construction sector are not dignified enough. cramped, dirty, and unhygienic conditions. This was agreed upon by Marhani et al. (2012), who reported that the accommodation is cramped and dirty. Indirectly, it might impact the labourers' health and the surrounding neighbourhood. The respondents added that the labourers have spent 8–9 h on-site and are looking forward to going back to decent accommodation to rest and recharge for the next day. Mohd Fateh et al. (2020) added that the accommodation needs to meet with the national legislation and international good practice, for example, a minimum amount of space for each worker, provision of sanitary, laundry and cooking facilities, and portable water.

Next, the second initiative that was agreed upon by the respondents is fully utilising the IBS, with an overall mean of 4.09. The respondents highlighted that most of the work being done for the IBS construction approach is off-site and in a controlled environment. CIDB (2015) described IBS as a construction system using a mixture of construction components that are either manufactured on or off-site and then installed and assembled into construction structures. It can be a factory or fabrication yard where the conditions are not too harsh compared to a typical construction site. In these settings, it can reduce the perceptions of the 3D workplace that have been portrayed. The increase of IBS in Malaysia can be a catalyst to reduce the dependency on foreign labour and start engaging with local talents. Mydin et al. (2014) concluded that since IBS construction relies more on state-of-the-art construction technology, reliance on manual labour can be reduced, and subsequently, foreign labour flows to Malaysia are reduced.

Low-skilled foreign labour fills vacancies in construction and other economic sectors because these jobs are physically demanding and labour intensive, and thus are often avoided by most locals (Kupets 2016). Many foreign workers are willing to accept lower wages in comparison to Malaysian workers, undermining wage structures. Kupets (2016) also exposed that local construction labour generally receives 40% higher pay than their foreign counterparts. Pension funds, medical and social benefits are among the legal requirements, and other employee

benefits are relieved by employers upon hiring a foreign worker. Therefore, hiring a cheap foreign workforce keeps the production costs low and reduces the bargaining power of locals in the labour market. The tremendous influx of foreign labour into the country is also causing an outflow of money. Some studies have shown that as much as 80% of a foreign worker's pay is sent back to their respective home countries regularly.

The third initiative by the respondents was to increase the minimum salary and introduce performance benefits for the labour in the construction sectors, with an overall mean value of 3.92. This was agreed upon by Narayanan & Lai (2014), who highlighted that recruiting local labour to participate more in the construction industry increases the minimum salary. Pillai et al. (2016) reported that the MTUC had called on the government to create a minimum wage for the lowest-paid labourers to meet the cost of living that had arisen in the 2000s. It is also a prominent employee engagement programme that includes career advancement and learning and development opportunities. The CIDB claims that if Malaysia can build more participation, they can be paid higher by skilled local labour and industry, and the country will break foreign workers' reliance.

5 CONCLUSION

In conclusion, this is one of the construction industry's most pressing issues. The construction industry is a labour-intensive sector. Malaysia has been dependent on immigrant labour for

many years to meet its demand for construction workers. However, Malaysia's construction industry is plagued by the low-salary and low-productivity traps resulting from heavy reliance on low-skilled foreign labour. Not only are the numbers of local workers small, but they also dramatically decline as a result of migration for better job opportunities in other industries. The findings from research might be able to improve the participation of local skilled labourers in the construction labour force. The related stakeholders can utilise the findings and assist in improving the subject matter.

AUTHOR CONTRIBUTIONS

MF and SO: conceptualization, resources, technique, formal analysis, discussion, visualisation, and writing—first drafts preparation and visualization. MF and MM are in charge of writing, evaluating, editing, and disseminating the paper. The published version of the manuscript has been read and approved by all authors.

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